# MAINE PUBLIC HEALTH ALERT NETWORK SYSTEM



Maine Health and Human Services'
Public Health
(Formerly Bureau of Health)
11 State House Station
Augusta, Maine 04333-0011
Phone 1-800-821-5821 / Fax 207-287-4612

## \*\*ADVISORY - Important Information\*\*

## 2005PHADV066

**TO:** Infection Control Practitioners, Emergency Departments, Primary Care

Association, Maine Hospital Association, Veterinarians, Maine HHS Public Health, Maine HHS Public Health Leadership, State and Federal

Agencies, Public Health Nurses

**FROM:** Dora Anne Mills, M.D., M.P.H., Public Health Director

**SUBJECT:** Eastern Equine Encephalitis: Update for Maine Clinicians, October 2005

**DATE:** October 4, 2005

**TIME:** 5:00PM

PAGES: 3

**PRIORITY:** Review

**Confidentiality Notice:** This fax message is intended for the exclusive use of the individual or entity identified above. It may contain information, which is privileged and/or confidential under both state and federal law. If you are not notified otherwise, any further dissemination, copying, or disclosure of the communication is strictly prohibited. If you have received this transmittal in error, please immediately notify us at 287-3252 and return the original transmission to us by mail at Key Bank Plaza, 6<sup>th</sup> Floor-286 Water Street. Augusta, ME 04333, without making a copy. Your cooperation in protecting confidential information is greatly appreciated.

## Eastern Equine Encephalitis: Update for Maine Clinicians, October 2005

Two horses and one bird have recently tested positive for Eastern Equine Encephalitis (EEE) in Maine, all in York County. Because there is a risk of human transmission of EEE from infected mosquitoes to people in that area, Maine Health and Human Services' Public Health is alerting physicians and other health care providers of this EEE activity, and providing laboratory testing criteria and guidelines. For further questions or concerns, please contact Public Health for the medical epidemiologist on call at: 1-800-821-5821.

#### **Human Clinical Features**

Symptoms of EEE usually appear 4 to 10 days after the bite of an infected mosquito, and range from mild flu-like illness to encephalitis, coma, and death. The EEE case fatality rate is about 35%-50%. It is estimated that 35% of people who survive EEE will have mild to severe neurological deficits.

## **Risk Groups**

The enzootic transmission cycle is most common in coastal areas and freshwater swamps. Human cases occur relatively infrequently, largely because the primary transmission cycle takes place in swamp areas where human populations tend to be limited. Those people at most risk are:

- Residents of and visitors to endemic areas
- People who engage in outdoor work and recreational activities
- Persons over age 50 and younger than age 15 seem to be at greatest risk for developing severe disease

## **Diagnostic Tests for EEE Infection**

Clinical Suspicion: EEE infection can be suspected in a person based on clinical symptoms and patient history. Diagnosis relies on a high index of suspicion and on results of specific laboratory tests. EEE or other arboviral infections should be seriously considered in any individual – but especially those over age 50 or younger than age 15 - who has onset of unexplained encephalitis or meningitis in the late summer or early fall. The local presence of EEE enzootic activity should further raise the index of suspicion.

Laboratory Tests: Laboratory testing is required for a confirmed diagnosis. The most efficient diagnostic methods are:

- Detection of IgM antibody to EEE in serum collected 3-10 days after onset of illness (note: if a specimen collected less than 10 days after onset of illness is negative, a convalescent serum should be collected and tested for IgM antibody 2-3 weeks after the first collection date).
- Detection of IgM antibody to EEE in CSF collected within 8 days of illness onset (for persons with neuroinvasive disease).

Because some other arboviral infections can cause indistinguishable clinical presentations, public health testing for EEE infection in Maine is accompanied by testing for West Nile virus (WNV), St. Louis Encephalitis (SLE), and Powassan Encephalitis (POW) virus infections. Confirmatory testing of IgM ELISA – positive specimens is performed using the plaque-reduction neutralization test (PRNT) at the Centers for Disease Control and Prevention. The PRNT is useful in ruling out possible false positive results and in distinguishing cross-reactions that can occur between different arboviral infections.

Diagnostic testing of serum and cerebrospinal fluid for EEE infection (and related arboviral infections) is available free of charge through the Maine Health and Human Services' Public Health Laboratory. Maine HHS Public Health requests that all specimens for arboviral testing be submitted to Maine's Public Health Laboratory (the Health and Environmental Testing Laboratory = HETL), rather than commercial laboratories. For information on obtaining and submitting specimens for diagnostic testing call 1-800-821-5821 or go to: http://www.maine.gov/dhhs/boh/ddc/wnvclinical.htm.